

In re Patent Application of  
BERNHARDT ET AL.  
Serial No. 10/657,960  
Filed: SEPTEMBER 9, 2003

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#### REMARKS

Applicants thank the Examiner for the careful and thorough examination of the present application. Claims 1-28 remain pending in the application. Favorable reconsideration is respectfully requested.

#### I. The Invention

As shown in FIGS. 1-5, for example, the disclosed invention is directed to a mobile ad hoc network that increases throughput and decreases delay. Traffic state information is obtained about intermediate nodes between the source node and the destination node. The traffic state information includes node resource utilization information, node residual capacity information, and node transit delay information. Candidate routes are discovered from the source node to the destination node, and one or more routes are selected from among the candidate routes to distribute message data to the destination node based upon the number of intermediate nodes and the traffic state information obtained for each of the intermediate nodes on the discovered route.

#### II. The Claims are Patentable

Claims 1-28 were rejected in view of Elliott (U.S. Patent No. 6,456,599) for the reasons set forth on pages 2-5 of the Office Action. Applicants contend that Claims 1-28 clearly define over the cited reference, and in view of the following remarks, favorable reconsideration of the rejection under 35 U.S.C. §102(e) is requested.

Independent method Claims 1 and 11 include traffic state information being obtained/transmitted about nodes, the traffic state information including node resource utilization

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information, node residual capacity information, and node transit delay information. Candidate routes are discovered and one or more routes are selected to distribute message data to the destination node based upon the traffic state information.

Similarly, independent Claim 20 is directed to a mobile node including a traffic state monitoring unit to obtain traffic state information about the plurality of nodes, the traffic state information including resource utilization information, residual capacity information, and transit delay information. A route discovery unit discovers candidate routes, a route ranking unit ranks candidate routes based upon the number of nodes and the traffic state information, and a message data distribution unit distributes the message data along a candidate route based upon the rank.

It is these combinations of features which are not fairly taught or suggested in the cited reference and which patentably define over the cited reference.

The Examiner has relied on the Elliot patent as allegedly disclosing every feature of the claimed invention including the use of node resource utilization information, node residual capacity information, and node transit delay information to make routing decisions in the network.

Applicants acknowledge that the Elliott patent is directed to an ad hoc network wherein network information is received from other nodes of the network. Information of potential neighboring nodes to which the node could possibly be connected is generated in the node in response to the network information received from other nodes of the network. While the Elliott reference may mention delay, congestion and interference (Column 8, lines 8-17), the Examiner has mischaracterized such broad teachings as meeting the claimed

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features of node resource utilization information, node residual capacity information, and node transit delay information.

Further evidence of the Examiner's stretch to apply the Elliott reference in the anticipation rejection is found in the Examiner's comments with respect to various dependent claims (e.g. page 4 of the Office Action). Again, the portions of the Elliott reference specifically relied upon by the Examiner (e.g. Columns 5, 6 and 8) may refer to "control messages", "age of the snapshot", "delays", "congestion" or "interference" but there is nothing in any of these portions to teach the use of traffic buffer/queue utilization, available node capacity beyond that being used by unrelated traffic, or transit delay time from when a node receives message data to transmission thereof.

As the Examiner is aware, a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. The identical invention must be shown in as complete detail as is contained in the claim.

There is simply no teaching or suggestion in the cited reference to provide the combination of features as claimed. Accordingly, for at least the reasons given above, Applicants maintain that the cited reference does not disclose or fairly suggests the invention as set forth in Claims 1, 11 and 20. Furthermore, no proper modification of the teachings of this reference could result in the invention as claimed. Thus, the rejection under 35 U.S.C. §102(e) should be withdrawn.

It is submitted that the independent claims are patentable over the prior art. In view of the patentability

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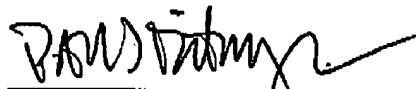
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of the independent claims, it is submitted that their dependent claims, which recite yet further distinguishing features are also patentable over the cited references for at least the reasons set forth above. Accordingly, these dependent claims require no further discussion herein.

### III. Conclusion

In view of the foregoing remarks, it is respectfully submitted that the present application is in condition for allowance. An early notice thereof is earnestly solicited. If, after reviewing this Response, there are any remaining informalities which need to be resolved before the application can be passed to issue, the Examiner is invited and respectfully requested to contact the undersigned by telephone in order to resolve such informalities.

Respectfully submitted,



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CERTIFICATE OF FACSIMILE TRANSMISSION

I HEREBY CERTIFY that the foregoing correspondence has  
been forwarded via facsimile number 703-872-9306 to the  
Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-  
1450 this 14<sup>th</sup> day of March, 2005.

